TABLE 3.—*Maximum free-air wind velocities (m. p. s.), for different sections of the United States based on pilot-balloon observations during February 1943*

Section	Surface to 2,500 meters (m. s. l.)					Between 2,500 and 5,000 meters (m. s. l.)					Above 5,000 meters (m. s. l.)				
	Maximum velocity	Direction	Altitude (m) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m) m. s. l.	Date	Station
Northeast [1]	58.2	w.	640	11	Nantucket, Mass.	54.4	nw.	3,910	8	Phillipsburg, Pa.	74.2	nw.	9,330	10	Caribou, Me.
East-Central [2]	44.0	ssw.	2,130	10	Richmond, Va.	50.0	w.	3,450	14	Raleigh, N. C.	65.2	w.	7,430	25	Nashville, Tenn.
	44.0	wnw.	2,500	1	Washington, D. C.										
Southeast [3]	41.3	nw.	1,050	14	Spartanburg, S. C.	58.0	w.	4,960	14	Charleston, S. C.	66.0	w.	11,900	7	Miami, Fla.
North-central [4]	41.2	nnw.	2,470	12	Williston, N. Dak.	52.6	nnw.	5,000	13	St. Paul, Minn.	60.0	n.	7,600	17	S. Ste. Marie, Mich.
Central [5]	41.6	wsw.	1,420	27	Fort Wayne Ind.	46.4	nw.	4,590	26	St. Louis, Mo.	61.6	w.	8,880	24	Wichita, Kan.
South-Central [6]	42.6	wnw.	2,290	8	Oklahoma City, Okla.	55.3	nw.	5,000	6	Waco, Tex.	80.0	wsw.	12,280	3	Abilene, Tex.
Northwest [7]	45.5	wsw.	2,380	6	Billings, Mont.	46.8	wnw.	4,830	11	Spokane, Wash.	62.0	nnw.	7,690	5	Great Falls, Mont.
West-Central [8]	33.6	wnw.	2,290	11	Cheyenne, Wyo.	52.0	nnw.	5,000	9	Reno, Nev.	74.8	n.	11,050	3	Reno, Nev.
Southwest [9]	44.0	wsw.	2,460	9	Roswell, N. Mex.	58.8	sse.	4,170	20	Sandberg, Calif.	69.6	wsw.	11,200	2	Tucson, Ariz.

[1] Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.
[2] Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.
[3] South Carolina, Georgia, Florida, and Alabama.
[4] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[5] Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.
[6] Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.
[7] Montana, Idaho, Washington, and Oregon.
[8] Wyoming, Colorado, Utah, northern Nevada and northern California.
[9] Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS

By C. R. JORDAN

Precipitation during February 1943 was below normal in most sections of the United States. Moderate rains occurred over the interior of the Southeast during the first week of February. There was also moderately heavy precipitation over the northern Pacific coastal area during the early part of the month.

Temperatures during February averaged well above normal over the entire country with the exception of the Florida Peninsula and a small area in southeastern Arizona. The greatest departure from normal was in the northern Great Plains States where the temperature for the month averaged from 8° to 10° above normal. Despite the high average temperatures for the month, the coldest weather of the winter was experienced in the Northeastern States during the middle of the month and a hard freeze was felt as far south as the Gulf coast. Minimum temperatures of 30° or more below zero were reported in New England with temperatures as low as 10° below freezing extending into northern Florida.

Most of the flooding during February resulted from melting snow or ice jams that occurred in several streams when the unseasonably warm weather of early February and again during the latter part of the month caused the ice in many streams to move out early. Fortunately, precipitation during these periods was light. Moderate rains over the Southeast during the first half of February produced some light flooding in that section, but little damage was reported. Moderate floods also occurred in the Columbia River Basin.

St. Lawrence drainage.—The snow cover in the Upper Lakes region was reduced somewhat by the warm weather during the latter part of February. Snow depths at the end of the month ranged from a trace in southern Michigan to 3 feet or more in northern Michigan and Wisconsin. Water content of the snow cover in the portion of the Adirondack Mountain region of New York tributary to the St. Lawrence River averaged about 8 inches.

The Flint River at Columbiaville, Mich., swollen by water from melting snow, rose slightly above flood stage on February 25, when an ice jam formed below the town but no damage resulted.

Atlantic slope drainage.—The snow cover in New England was reduced considerably by the warm weather of February 19–25, but a heavy cover was still present at the end of the month in Vermont and New Hampshire and in the mountains of New York. Maximum depths of more than 3 feet in Maine and 4 feet in some sections of New York were reported. Only a few stations in the mountains of Pennsylvania reported over 6 inches of snow. Ice in the rivers ranged from 10 inches at Hartford, Conn., to about 3 feet in northern Maine. No ice was reported in the rivers of eastern Pennsylvania and New York at the close of the month with the exception of shore ice in the Hudson River at Albany, N. Y.

The Connecticut River was slightly above flood stage at White River Junction, Vt., on February 25, as a result of ice released in the White River overrunning the ice in the Connecticut River at their confluence.

An ice jam formed in the Mohawk River just below Tribes Hill, N. Y., on the morning of February 24. The river rose rapidly to a stage of 24.8 feet (1.8 feet above flood stage) at noon, at which time the gorge broke and the water receded rapidly. There was also light flooding in the vicinity of Schenectady, N. Y., from an ice jam that formed below that point. Damage was negligible.

The unusually warm weather from February 19–24, with temperatures as high as 63° at Binghamton, N. Y., produced relatively heavy run-off from snow melt in the headwaters of the Susquehanna River in New York. The flow was not augmented by precipitation of consequence and the run-off from melting snow was not sufficient to produce serious flooding. Flood stages were exceeded slightly at Sherburne, Greene, and Binghamton, N. Y., on the Chenango River and at Oneonta, Bainbridge, and Vestal, N. Y., on the Susquehanna. Some basements were flooded in low places in the area of Vestal and Westover, N. Y., but otherwise little damage resulted.

Moderate rains during the first week of February, averaging from 0.5 inch to 2.5 inches in the southeastern section, produced light to moderate flooding in most streams along the Atlantic coast from Virginia southward.

The Roanoke River rose to 7 feet above flood stage at Weldon, N. C., on the 9th and nearly 2 feet above flood stage at Williamston, N. C., on the 13th. Damage was confined mostly to prospective crops and to the interruption of business.

The Neuse River exceeded flood stage at a few points and the Cape Fear River crested at a stage of 26.0 feet at Elizabethtown, N. C., on February 8, but did not reach flood stage at stations farther downstream.

Rains averaging about an inch over the Yadkin and upper Pee Dee River Basins on the 6th produced moderate rises in these streams with a crest of 32.3 feet at Cheraw, S. C., on the 7th. No damage was reported.

Rainfall averaged from 2 to 2.5 inches over the Saluda, Broad, and Catawba River Basins on the 6th and caused the Saluda and Broad Rivers to exceed flood stages slightly at a few points. Overflow was slight and no damage was reported.

The Savannah River at Butler Creek, Ga., exceeded flood stage on February 7–8, as a result of precipitation averaging from 1 to 1.5 inches over the basin on the 5th and 6th. Damage was light, being confined mostly to suspension of business.

Moderate rises continued in the Ocmulgee, Oconee, and Altamaha Rivers during the early part of February as a result of precipitation that occurred near the end of January.

East Gulf of Mexico drainage.—The Apalachicola River continued above flood stage at Blountstown, Fla., until the middle of February due to a very slow recession from a crest of 21.9 feet that occurred on January 24. High stages were prolonged by further rains on January 28, and again on February 4 and 5. The only loss from the high stages was the suspension of small industries in the vicinity of Blountstown.

Moderate rains, averaging from 1.5 to 2 inches over the middle Tombigbee and Pearl River Basins on February 4 and 5 caused slight overflows in those streams. The crest in the Tombigbee reached 38.2 feet on February 10 at Lock No. 3; no damage resulted. Overflow in Bogue Chitto River at Franklinton, La., and the Pearl River at Pearl River, La., resulted in little or no loss.

Mississippi system.—Two periods of unusually warm weather during February that resulted in considerable run-off from the heavy snow cover over southwestern Wisconsin raised the Rock River at Moline, Ill., above flood stage from February 8 to 18, and again from February 21 to March 4. The highest stage reached was 11.4 feet on February 25, and no damage of consequence was reported.

Moderate flooding occurred in the Skunk, Des Moines, Illinois, Big Sioux, Floyd, Boyer, Elkhorn, Little Missouri, Heart, Yellowstone, Grand, and Missouri Rivers and at Louisiana and Hannibal, Mo., on the Mississippi River. The flooding resulted mainly from the formation of ice jams in the streams and the overflows, being local, caused little damage in most cases.

The unusually warm period in the Dakota, and Montana from February 17 to 23, melted a great deal of snow in the low-lying areas and swelled the Yellowstone and Little Missouri Rivers in some places to record stages. The peak on the Yellowstone River at Sidney, Mont., exceeded the usual high water flow for that station in June and the Little Missouri at Marmarth, N. Dak., was the highest that has ever been observed. Ice jams of large proportions occurred on both streams. It is estimated that some $20,000 worth of property, mostly livestock and other farm property, was lost as a result of the rapid rise in the Little Missouri. A farm home was destroyed and 800 head of sheep lost in Richland County, Mont., when flood waters inundated several farms along the Yellowstone River as a result of water backing up from its junction with the Missouri River, following the breaking of ice jams between Billings and Miles City, Mont. Loss in this area was estimated at $9,300.

Ice jams occurred on most of the streams in Iowa and some lowlands were inundated in the lower Des Moines River Basin.

Pacific slope drainage.—The Sacramento River at Knights Landing, Calif., remained slightly above flood stage on February 1. This was a continuation of the flood of January 1943.

Rains during the first part of February were followed by moderate flooding of the streams in western Oregon. No damage was reported.

FLOOD-STAGE REPORT FOR FEBRUARY 1943

[All stages in February unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ST. LAWRENCE DRAINAGE					
Lake Huron					
	Feet			*Feet*	
Flint: Columbiaville, Mich.	10	23	27	10.6	25
ATLANTIC SLOPE DRAINAGE					
Connecticut: White River Junction, Vt.	18	25	25	[1] 18.4	25
Mohawk: Tribes Hill, N. Y.	23	24	24	24.8	24
Chenango:					
Sherburne, N. Y.	8	24	25	8.7	24
Greene, N. Y.	8	24	26	10.0	25
Binghamton, N. Y.	16	25	25	16.2	25
Susquehanna:					
Oneonta, N. Y.	12	23	27	16.0	24–25
Bainbridge, N. Y.	12	25	25	13.7	25
Vestal, N. Y.	14	24	26	17.7	25
James: Columbia, Va.	10	2	12	16.8	7
Roanoke:					
Randolph, Va.	21	6	8	25.0	6
Weldon, N. C.	31	6	10	38.3	9
Williamston, N. C.	10	Jan. 31	23	11.9	13
Neuse:					
Neuse, N. C.	14	7	9	14.9	8–9
Smithfield, N. C.	13	Jan. 29	2	15.0	Jan. 29 Feb. 1
	13	7	11	15.0	9–10
Goldsboro, N. C.	14	1	5	15.0	4
		10	14	15.0	13
Kinston, N. C.	14	(2)	2	16.0	Jan. 27– Feb. 2,
		5	8	14.3	7
		15	15	14.0	15
Cape Fear: Lock No. 2, Elizabethtown, N. C.	20	Jan. 30	2	25.0	Jan. 31
		7	11	26.0	8
Pee Dee:					
Cheraw, S. C.	30	7	8	32.3	7
Mars Bluff Bridge, S. C.	17	(2)	16	20.2	3
				19.8	11
Poston, S. C.	18	(2)	[3] 17	20.0	8
				19.8	15
Salula:					
Pelzer, S. C.	6	5	8	6.8	7
Chappells, S. C.	13	5	7	16.3	6
Broad: Blairs, S. C.	14	6	7	15.6	7
Savannah: Butler Creek, Ga.	21	7	8	21.9	7
Ogeechee: Dover, Ga.	7	(2)	15	8.8	Jan. 25
				7.5	8–9
Ocmulgee: Abbeville, Ga.	11	(2)	7	16.1	Jan. 25
				12.7	4
Oconee: Mount Vernon, Ga.	16	4	6	16.7	5
Altamaha:					
Charlotte, Ga.	12	(2)	18	21.4	Jan. 29
				17.0	6
Everett City, Ga.	10	Jan. 30	16	12.7	3
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	(2)	16	17.2	10–11
Tombigbee: Lock No. 3, Ala.	33	7	12	38.2	10
Bogue Chitto: Franklinton, La.	11	6	8	12.4	7
Pearl: Pearl River, La.	12	9	14	15.0	12
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Rock: Moline, Ill.	10	8	18	10.7	12–18
		21	Mar. 4	11.3	25
Skunk: Augusta, Iowa	15	4	9	[1] 20.0	6
		12	13	[1] 16.2	12
Des Moines:					
Eddyville, Iowa	15	4	16	[1] 21.7	5
		20	27	[1] 18.0	27
Tracy, Iowa	14	5	8	[1] 15.8	6

See footnotes at end of table.